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section A, nº 3 : 871-902.

Expédition Rumphius II (1975)
Crustacés parasites, commensaux, etc.
(Th. Monod éd.)

IX. Crustacés Décapodes
(1ere partie : Natantia Pontoniinae)

par A. J. Bruce

Abstract. — Information is provided on 29 species of pontoniine shrimps, belonging to 13 different genera, collected from the region of Ambon, in the Moluccas, Indonesia, by the Rumphius Expedition II, in 1975. One species, *Paranchistus serenei*, is new and 12 are recorded from Indonesian waters for the first time. All species, except 3, are commensals of other marine invertebrates, and many of these hosts, particularly crinoids, are identified, providing numerous new host records. The pontoniine shrimp fauna of Indonesia is now increased to 83 species.

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Introduction

The Indonesian Archipelago has one of the best known tropical shrimp faunas of the Indo-West Pacific zoogeographical region. The first pontoniine shrimps from this region were recorded by Rumphius in 1705, from Ambon, although their precise identity has never been confirmed with certainty. Found in association with giant clams and fan shells, they probably belonged to the genera *Anchistus*, *Paranchistus* or *Conchodytes*. Another shrimp, from the bivalve *Tapes litterrata*, has not been recorded since and its identity is yet to be established (Holthuis, 1952). The present specimens, collected by the Rumphius II expedition, have provided information on 13 species that are now recorded from Indonesian waters for the first time. The specimens are deposited in the collections of the Museum national d'Histoire naturelle, Paris. Specimens retained for the collection of the Northern Territory Museum are indicated by their catalogue numbers, NTM. The crinoids were identified by Dr. D. L. Meyer who participated in the expedition. CL indicates the shrimps post-orbital carapace length in millimeters. The designations C.Ca, C.Po. correspond to the collectors field station numbers. Unless otherwise stated, all specimens were collected from intertidal reefs.

Palaemonella Dana, 1852

P. rotumana (Borradaile, 1898)
P. pottsi (Borradaile, 1915)

Periclimenes Costa, 1844

P. affinis (Zehntner, 1894)
P. amboinensis (De Man, 1888)
P. amymone De Man, 1902
P. attenuatus Bruce, 1971
P. brevicarpalis (Schenkel, 1902)
P. ceratophthalmus Borradaile, 1915
P. commensalis Borradaile, 1915
P. elegans (Paulson, 1875)
P. lutescens auct.
P. soror Nobili, 1904
P. spiniferus De Man, 1902
P. tenuis Bruce, 1969

Araiopontonia Fujino & Miyake, 1970

A. odontorhyncha Fujino & Miyake, 1970

Paranchistus Holthuis, 1952

P. nobilii Holthuis, 1952
P. serenei sp. nov.

Anchistus Borradaile, 1898

A. australis Bruce, 1977
A. custoides Bruce, 1977
A. demani Kemp, 1922

Pontoniopsis Borradaile, 1915

P. comanthi Borradaile, 1915

Pontonia Latreille, 1829

P. katoi Kubo, 1940

Platypontonia Bruce, 1968

P. hyotis Hipeau-Jacquotte, 1971

Harpiliopsis Borradaile, 1915

H. depressa (Stimpson, 1860)

Hamopontonia Bruce, 1970

H. corallicola Bruce, 1970

Coralliocaris Stimpson, 1860

C. viridis Bruce, 1974

Jocaste Holthuis, 1952

J. lucina (Nobili, 1901)
J. japonica (Ortmann, 1890)

Paratypton Balss, 1914

P. siebenrocki Balss, 1914

SYSTEMATIC ACCOUNT

Palaemonella rotumana (Borradaile, 1898)

Restricted synonymy

Periclimenes (Falciger) rotumanus Borradaile, 1898 : 383.
Palaemonella vestigialis Kemp, 1922 : 123-126, figs. 1-2, pl. 3. Holthuis, 1952 : 8, 24-27, fig. 3.
Palaemonella rotumana : Bruce, 1970 *a* : 276-279, pl. 1 e-f.

Material examined : (i) 1 ♂, 1 ovig. ♀, CLs 2.6, 2.3 mm ; Marsegu Island, 18 January 1975, R. Serène & Th. Monod coll., C.Ca. 576. — (ii) 1 ♂, 1 ovig. ♀, CLs 2.0, 2.8 mm ; Gorong Island, 25 January 1975, R. Serène & Th. Monod coll., C.Ca. 472. — (iii) 2 ovig. ♀, Cls 2.5, 2.1 mm ; Marsegu Island, 18 January 1975, R. Serène & Th. Monod coll., C. Po. 371.

Remarks : The males had a rostral dentition of 8/2, 8/3 and all females of 7/2. The supraorbital ridge is very feebly developed in these speeimens with the typical tuberele obsolete.

Distribution : Previously reeorded from numerous localities in Indonesia by Holthuis (1952). Common and widespread throughout the whole Indo-West Pacific region and also known from the western Mediterranean Sea.

Palaemonella pottsi (Borradaile, 1915)

Restricted synonymy

Periclimenes (Falciger) pottsi Borradaile, 1915 : 213.
Palaemonella pottsi : Kemp, 1922 : 126-127. — Bruce, 1970 *a* : 274 (key), 279-284, figs. 1, 3-7, pl. 1 a-d.

Material examined : (i) 1 ♂, CL 1.4 mm ; east coast, Marsegu Island, 3°00′20″ S., 128°03′30″ E., 16-18 January 1975. D. L. Meyer coll., C.Po. 394. — (ii) 1 ♂, 1 ovig. ♀, CLs 1.8, 2.5 mm ; Sawai, Seleman Bay, Seram Island, 2°56′50″ S., 129°10′40″ E., 20 January 1975, D. L. Meyer coll., C.Po. 380. — (iii) 1 ♂, 1 ovig. ♀, CLs 2.3, 2.8 mm ; N.W. Banda Island, 4°32′22″ S., 159°22′28″ E, 31 January 1975, D. L. Meyer coll., C.Po. 384. — (iv) 1 ♂, CL 2.2 mm ; Kotasirih, Kailakat Bay, Gorong Island, 4°03′ S., 121°26′30″ E., 25-27 January 1975, D. L. Meyer coll., C.Po. 374. — (v) 1 ♂, CL 1.2 mm ; east coast of Marsegu Island, 3°00′20″ S., 128°03′30″ E., 16-18 January 1975, D. L. Meyer coll., C.Po. 381. — (vi) 1 ♂, 1 ovig. ♀, CLs 3.7, 3.8 mm ; Liliata, Misool Island, 2°03′12″ S., 130°16′30″ E., 22-24 January 1975, D. L. Meyer coll., C.Po. 400, NTM Cr. 000424. — (vii) 1 ♂, CL 1.7 mm ; east coast of Marsegu Island, 3°00′20″ S., 128°03′30″ E., 16-18 January 1975, D. L. Meyer coll., C.Po. 391.

Hosts : All specimens were found in association with crinoid hosts, as follows : *Comantheria* cf. *rotula* A. H. Clark, (ii) ; *Comanthina schlegeli* (P. H. Carpenter), (iv) (vi) (vii) ; *Comenthus benneti* (J. Müller), (i) ; *C. parvicirrus* (J. Müller), (iii) ; *Himerometra robustipinna* (P. H. Carpenter), (v).

Remarks : The males have a rostral dentition of 7-8/2 and the females of 7/2, with the two juvenile specimens of 6/1-2. The associations with *C. bennetti*, *C. parvicirrus* and *C. schlegeli* have been previously recorded but the associations with *Comantheria rotula* and *Himerometra robustipinna* represent new host records.

Distribution : This species has not been previously recorded from Indonesian waters. Reported from Zanzibar, Singapore, Torres Straits and Great Barrier Reef, New Caledonia and Marshall Islands.

Periclimenes affinis (Zehntner, 1894)
(Fig. 7 A)

Restricted synonymy

Palaemonella affinis Zehntner, 1894 : 208
Periclimenes (Harpilius) affinis : Holthuis, 1958 : 6-8, fig. 2.
Periclimenes affinis : Bruce, 1980 : 2-8, figs. 1-3.

Material examined : 2 ♂, 1 ovig. ♀, 2 juv., CLs 1.7, 1.5, 2.2, 1.4, 1.2 mm ; Marsegu Island, 18 January 1975, D. L. Meyer coll., C.Po. 391.

Host : *Comanthina schlegeli* (P. H. Carpenter) (Crinoidea, Echinodermata).

Remark

The ovigerous female has a damaged rostrum and the males have a dentition of 7/1, the juveniles of 7/1 and damaged. The specimens agree closely with the redescriptions of Holthuis (1958) and Bruce (1980). None of the specimens have the anterolateral margin of the proximal segment of the antennular peduncle bidentate. The dactyls of the ambulatory legs are simple and slender. The distal propod bears up to four slender isolated ventral spines and several groups of very long slender setae, as in the New Caledonian specimens (Bruce, 1980).

The species has been previously reported in association with *Comanthina schlegeli* and the present specimens were also found together with *Palaemonella pottsi* (i) and *Periclimenes commensalis* (ii).

Distribution : First described on the basis of a specimen from Ambon, this species has only been subsequently reported only from the northern South China Sea, New Caledonia and the Great Barrier Reef.

Periclimenes amboinensis (De Man, 1888)
(Figs. 1-3, 7 E)

Restricted synonymy

Anchistia amboinensis De Man, 1888 : 546-548, pl. 22 a, fig. 2.
Periclimenes amboinensis : Borradaile, 1898 : 383. — Bruce, 1981 : 13.

Material examined : (i) 1 ♂, CL 2.2 mm ; east coast of Marsegu Island, 3°00'20" S., 128°03' 30" E, 18 January 1975, D. L. Meyer coll., C.Po. 394. — (ii) 1 ♂, CL 2.2 mm ; *idem*, C.Po. 399. — (iii) 1 ♂, CL 1.7 mm ; *idem*, C.Po. 395. — (iv) 1 ♂, 1 ovig. ♀ ; Seleman Bay, Seram Island, 2°54' 30" S., 128°03'30" E, 20 January 1975, D. L. Meyer coll., C.Po. 394. — (v) 1 ♂, 1 ovig. ♀; Seleman Bay, Seram Island, 2°54'30" S., 129°04'30" E, 19/20 January 1975, D. L. Meyer coll., C.Po. 376. — (vi) 1 specimen CL 1.7 mm ; off Sawa Village, Seleman Bay Seram Island, 2°56'50" S., 129°10' 40" E, 21 January 1975, D. L. Meyer coll., C.Po. 380. — (vii) 1 ♂, CL 2.0 ; off Kota Serih village, Kailakat Bay, Gorong Island, 4°03'00" S., 131°26'30" E, 25 January 1975, D. L. Meyer coll., C.Po. 386. — (viii) 1 ♂, CL ? mm ; *idem*, C.Po. 393. — (ix) 1 ♂, CL 1.3 mm, *idem*. C.Po. 392. — (x) 1 ♂, 1 ovig. ♀, CLs 2.5, 3.9 mm ; between Gunung Api Island and Banda Neira Island, Banda Islands, 4°31'42" S., 129°53'23" E, 29 January 1975, D. L. Meyer coll., C.Po. 382, NTM Cr. 000425.

Hosts : *Comaster bennetti* (J. Müller), (i) (iii) (vii) (ix) ; *Comanthus parvicirrus* (J. Müller), (ii) ; *Comanthina briareus* (Bell), (iv) ; *Comantheria* cf. *rotula* A. H. Clark, (v) ; *Capillaster multiradiatus* (L.), (vi) ; *Comanthus samoanus* A. H. Clark, (viii), (Crinoidea, Echinodermata).

Remarks

De Man (1888) described *P. amboinensis* on the basis of a single example, which lacked both second pereiopods and whose association with crinoids was not recorded. This specimen, originally in the collections of the Zoologisches Museum, Göttingen, is no longer in existence (Dr. P. Kuenzer, *pers. comm.*, 3 March 1983) and there have been few recent records of this species. The specimens agree closely with De Man's original description and illustrations except that De Man states that the dactyls of the ambulatory pereiopods are without an accessory tooth. This is clearly present, although small, in the present specimens, and could easily have been overlooked especially as the distal propod, noted by De Man as " ein wenig behaart ", is provided with a number of rather long thick setae which tend to obscure the distal and ventral spines also present. The second pair of pereiopods is robust, more so in males than females. The palm is subcylindrical, about 3.0-3.4 times longer than deep, with the fingers about 0.55-0.75 of the palm length. The fingers have strongly hooked tips with about 7-10 low, acute teeth along the cutting edges.

All hosts represent new host records. *P. affinis* has also been reported in association with *Comanthina schlegeli* and *Comatula cratera* in Australian waters.

Periclimenes amymone De Man, 1902

(Fig. 7 C)

Restricted synonymy

Periclimenes amymone De Man, 1902 : 829-833, pl. 25 fig. 53.

Material examined : 1 ovig. ♀, CL 3.0 mm ; Lilihta Bay, Misool Island, 24 January 1975, R. Serène & Th. Monod coll., C.Ca. 475.

Remarks : This species is normally found in association with scleractinian corals and has been found in *Pocillopora*, *Stylophora*, *Seriatopora* and *Acropora* colonies (Bruce, 1977). The specimen has a rostral dentition of 7/2. The carpus of the second pereiopod has a very robust acute medial spine and the fingers of the chela are of non-excavate type. The

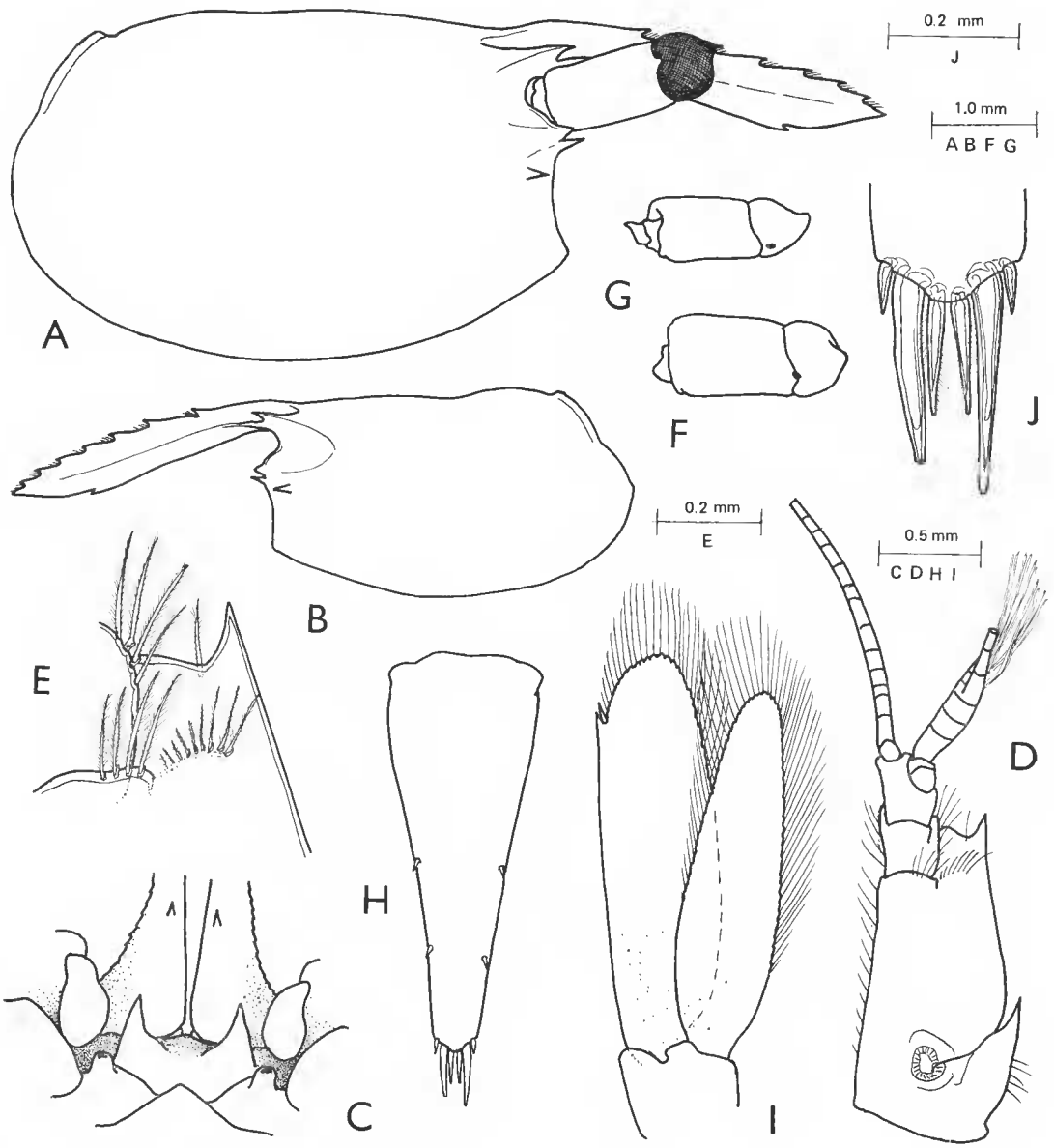

Fig. 1. — *Periclimenes amboinensis* (De Man) : A, B, anterior carapace and rostrum ; C, epistomal region ; D, antennule ; E, *idem*, distolateral angle of proximal segment ; F, G, eyes ; H, telson ; I, uropod ; J, posterior telson spines. (A, F, ovigerous ♀ ; B-E, G-J, ♂.)

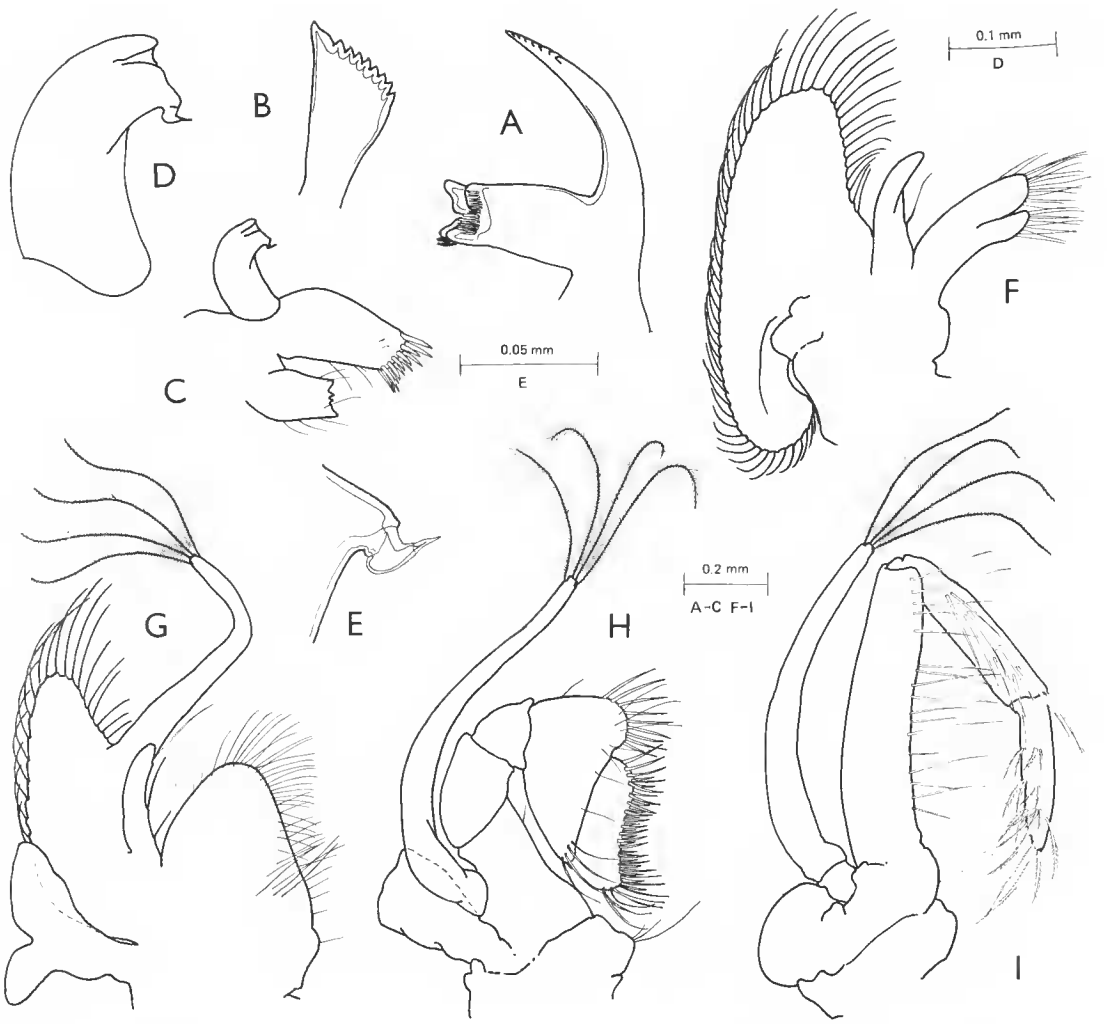

Fig. 2. — *Periclimenes amboinensis* (De Man), ♂ : A, mandible ; B, incisor process ; C, maxillula ; D, *idem*, palp ; E, *idem*, ventral lobe ; F, maxilla ; G, first maxilliped ; H, second maxilliped ; I, third maxilliped.

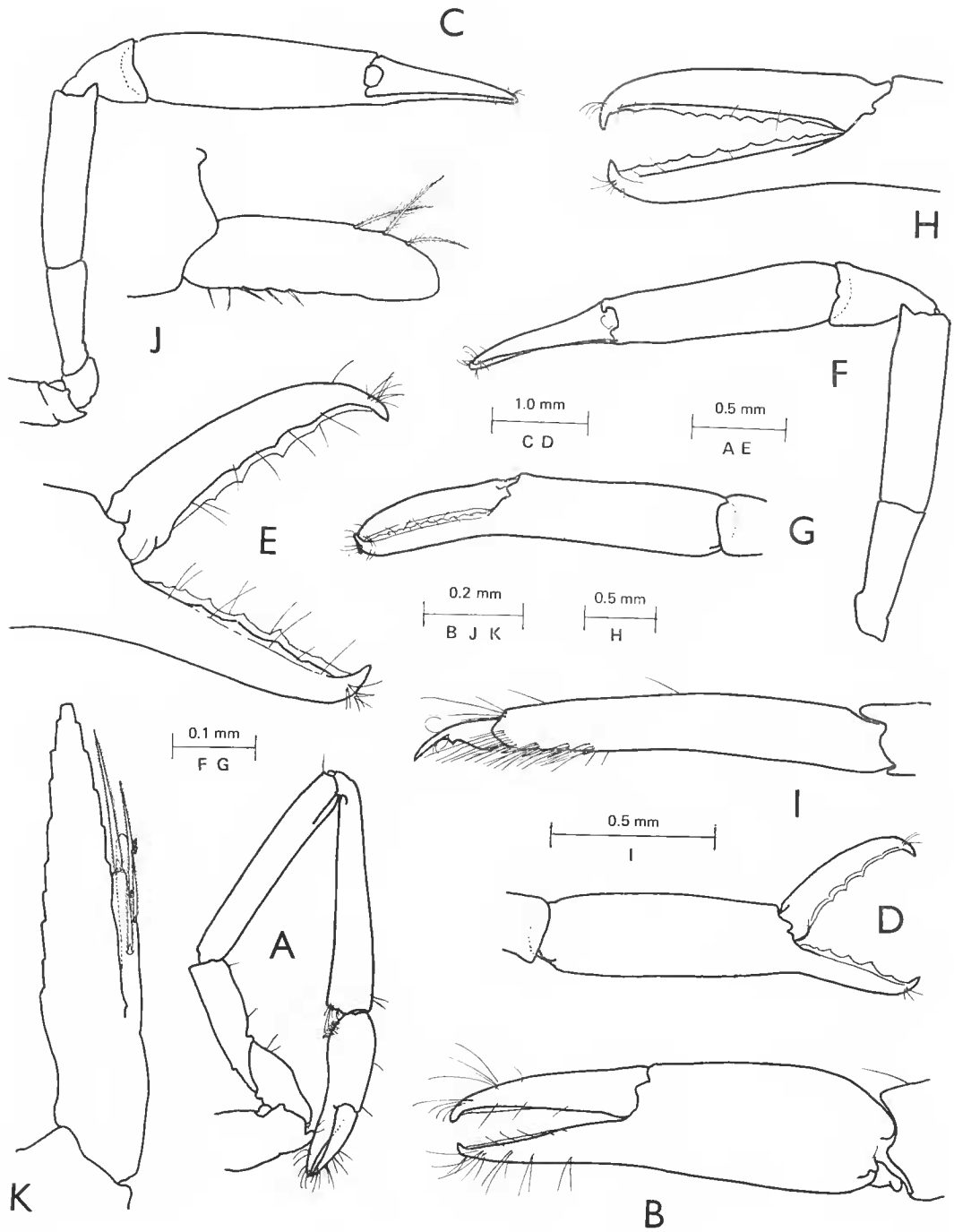

FIG. 3. — *Periclimenes amboinensis* (De Man) : A, first pereiopod ; B, *idem*, chela ; C, second pereiopod, major ; D, *idem*, minor ; E, fingers of major second pereiopod ; F, major second pereiopod ; G, *idem*, chela ; H, *idem*, fingers of chela ; I, propod and dactyl of third pereiopod ; J, endopod of first pleopod ; K, endopod of second pleopod. (A-E, I-K, ♂ ; FGH, ♀.)

ambulatory pereiopods have the propod robust, with a single strong single distoventral spine. The dactyl is relatively short and stout, strongly curved, with a few accessory setae.

Distribution : Previously recorded from Indonesia at Ternate, the type locality, by De Man (1902) and also from Borneo, Obi Latu, and Kera, by Holthuis (1952). Otherwise known from the Nicobar Islands, Singapore, Samoan and Solomon Islands, New Caledonia and the Great Barrier Reef.

Periclimenes attenuatus Bruce, 1971

Restricted synonymy

Periclimenes attenuatus Bruce, 1971 : 533-542, figs. 1-5.

Material examined : 1 ♂, CL 2.0 mm ; Sawai, Seleman Bay, Seram Islands, 2°56′50″ S., 129°10′40″ E., 20 January 1975, D. L. Meyer coll., C.Po. 388.

Host : *Comaster gracilis* (Hartlaub) (Crinoidea, Echinodermata).

Remarks : The single specimen has a rostral dentition of 3/0, as in the type material, wich was found on an unidentified erinoid. There have been no previous records of pontoniine associates with the genus *Comaster* (Bruce, 1982).

Distribution : New to the fauna of Indonesia. Previously known only from the type locality, Burukuk, Duke of York Islands, Bismark Archipelago.

Periclimenes brevicarpalis (Schenkel, 1902)
(Fig. 7 D, E)

Restricted synonymy

Ancylocaris brevicarpalis Schenkel, 1902 : 563, pl. 13 fig. 21.
Periclimenes (Ancylocaris) brevicarpalis : Kemp, 1922 : 185-191, figs. 40-42, pl. 6, fig. 8.
Periclimenes (Harpilius) brevicarpalis : Holthuis, 1952 : 69-73, fig. 27.

Material examined : (i) 1 ovig. ♀, CL 4.6 mm ; Marsegu Island, 16 January 1975, D. F. Dunn coll., C.Po. 360. — (ii) 1 ♀, CL 2.2 mm, Gorong Island, 26 January 1975, coll. (?), C.Po. 350. — (iii) 1 ♂, 1 ovig. ♀, CLs 3.5, 7.7 mm ; Gunung Api Island (Banda Islands), R. Serène coll., C.Po. 356.

Hosts : All specimens were found in association with actinarians, lot (iii) were on *Actinodendron* sp., with lot (ii) possibly from *Stichoactinia* sp.

Remarks

The speeimens of this well known speeies present some special features. The rostral dentition was 5-6/1. Kemp (1922) states that the propods of the ambulatory pereiopods

are without spinules but in the ovigerous female from Gorong Island a very small distoventral spine is present. In addition, the corpus of the dactyl bears a very small accessory spine, as reported by Bruce (1978 a, 1979) for specimens from the Marshall Islands and Madagascar. In the larger ovigerous female from Gunung Api Island, two larger distoventral spines were present on the propod but the dactylar corpus was without an accessory spine. It is possible that more than one species may be concerned under the name *P. brevicarpalis* and that one or more of its numerous synonyms may be valid. The examination of a number of fresh specimens from properly identified hosts and comparisons with earlier type material will be necessary to clear up any doubts.

Distribution : The type locality for *P. brevicarpalis* is Macassar, Celebes, and it has also been recorded from Ambon by Zehntner (1894) and Ternate by De Man (1902) as well as from numerous Indonesian localities by Holthuis (1952) including Flores, Sumbawa, Gebe, Tawitawi and Serute Islands, Ambon and Jakarta. Common throughout most of the Indo-West Pacific region from the Red Sea to the Line Islands.

Periclimenes ceratophthalmus Borradaile, 1915

(Figs. 4 E-D, 5, 6 A-C, 7 F)

Restricted synonymy

Periclimenes (Corniger) ceratophthalmus Borradaile, 1915 : 211.
Periclimenes (Periclimenes) ceratophthalmus : Kemp, 1925 : 324-325, fig. 11. — Holthuis, 1952 : 56-57, fig. 20.

Material examined : (i) 1 ♂, 1 ovig. ♀, CLs 2.0, 2.4 mm ; Kailaket Bay, Gorong Island, 4°03′ S., 12°26′30″ E., 25 January 1975, D. L. Meyer coll. — (ii) 1 ♂, 1 ovig. ♀, CLs 2.2, 3.2 mm ; Banda Islands, 30 January 1975, D. L. Meyer coll., C.Po. 355, NTM Cr. 000427. — (iii) 1 ♂, CL 1.7 mm ; Seleman Bay, Seram Island, 2°53′50″ S., 129°05′15″ E., 20/21 January 1975, D. L. Meyer coll., C.Po. 378.

Hosts : *Comanthus* sp., (i) ; *Himerometra robustipinna* (P. H. Carpenter), (ii) (iii), (Crinoidea, Echinodermata).

Remarks

The association with *Himerometra robustipinna* has been previously recorded. This species has also been found on *Comanthus parvicirrus Stephanometra spicata, Lamprometra klunzingeri* and *Dichrometra afra.*

The specimens so far referred to this species present a considerable range of variation in some of their morphological features, which may be explained by more than one species being represented in the available material. The present specimens have a rostral dentition of 2/0 (1) or 3/2 (4). Holthuis' specimen from Obi Latu had 5/0, whereas Miyake and Fujino's (1968) material from Palau had 5-6/1. Borradaile's type from the Maldives had 5/0, as did Kemp's specimen from that area. Bruce (1974 *a*) confirmed that epistomal horns are absent from Seychelle Islands material, but these are well developed in present specimens. The Seychelles material and a specimen from the southern Great Barrier

Reef (Bruce, 1977 *a*) had well developed dorsal telson spines in contrast to most others in which they are generally reported as minute. The incisor process of the mandible, in the case of one of the present specimens is not expanded and has only six distal teeth, unlike Holthuis' Obi Latu specimen. The rest of the mouthparts are normal. A Maldive Islands specimen had a very strongly developed accessory tooth on the dactyl of the walking legs (Kemp, 1925) as did those from the Seychelle Islands (Bruce, 1974 *a*), whereas most other specimens have only a small tooth. The present specimens differ from all others in lacking an accessory tooth in this position. The degree of corneal elongation is also subject to variation and, in the present specimens, is distinct but not as extreme as in Kemp's Maldive specimen.

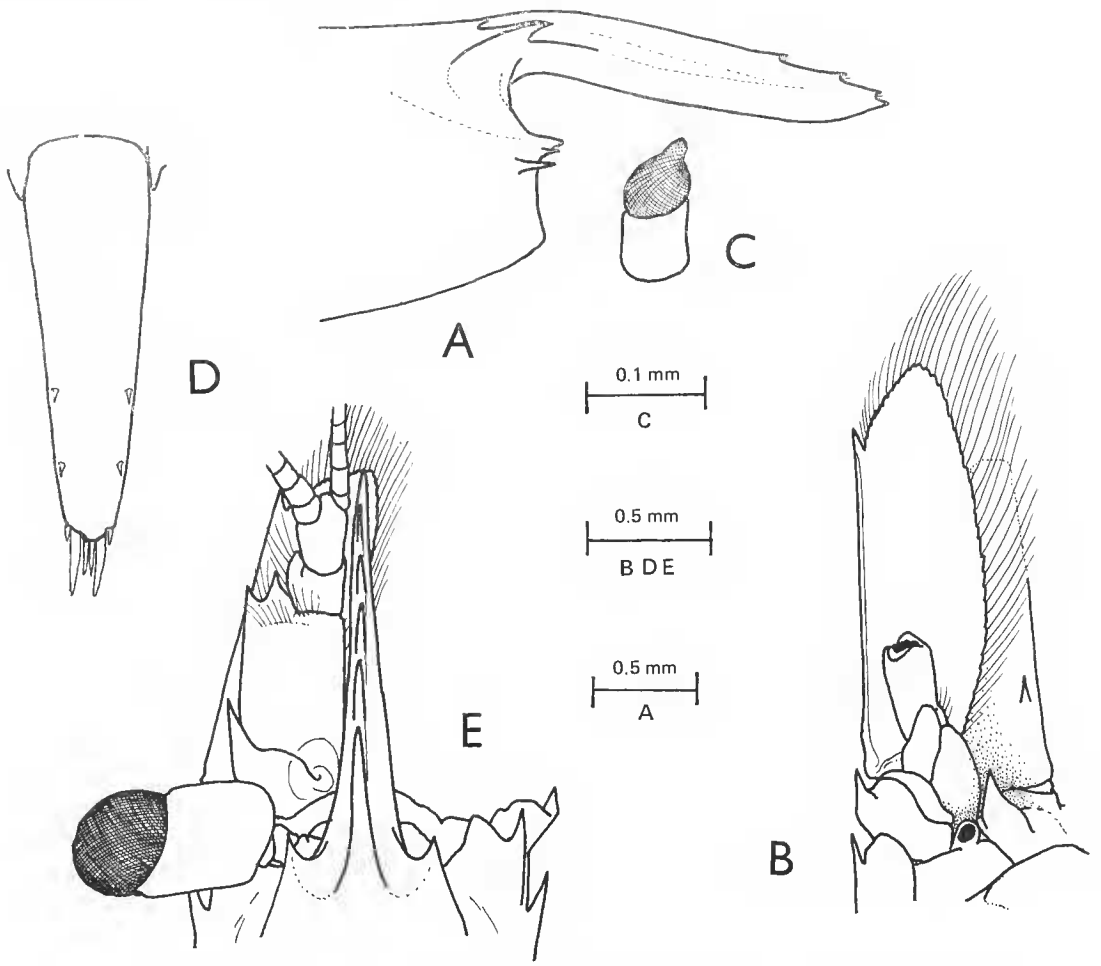

Fig. 4. — *Periclimenes ceratophthalmus* Borradaile : A, anterior carapace and rostrum ; B, epistomal region ; C, eye ; D, telson. — *Periclimenes commensalis* Borradaile : E, anterior carapace, rostrum and antennae. (A-D, ♂ ; E, ovigerous ♀.)

The study of more numerous specimens from a wider range of localities, from specifically identified hosts, will facilitate the understanding of the relationships of these specimens. It may be noted that the identified hosts of all Indian Ocean specimens belong to the family Mariametridae whereas those of the rest are associated with species of Himerometridae and Comasteridae.

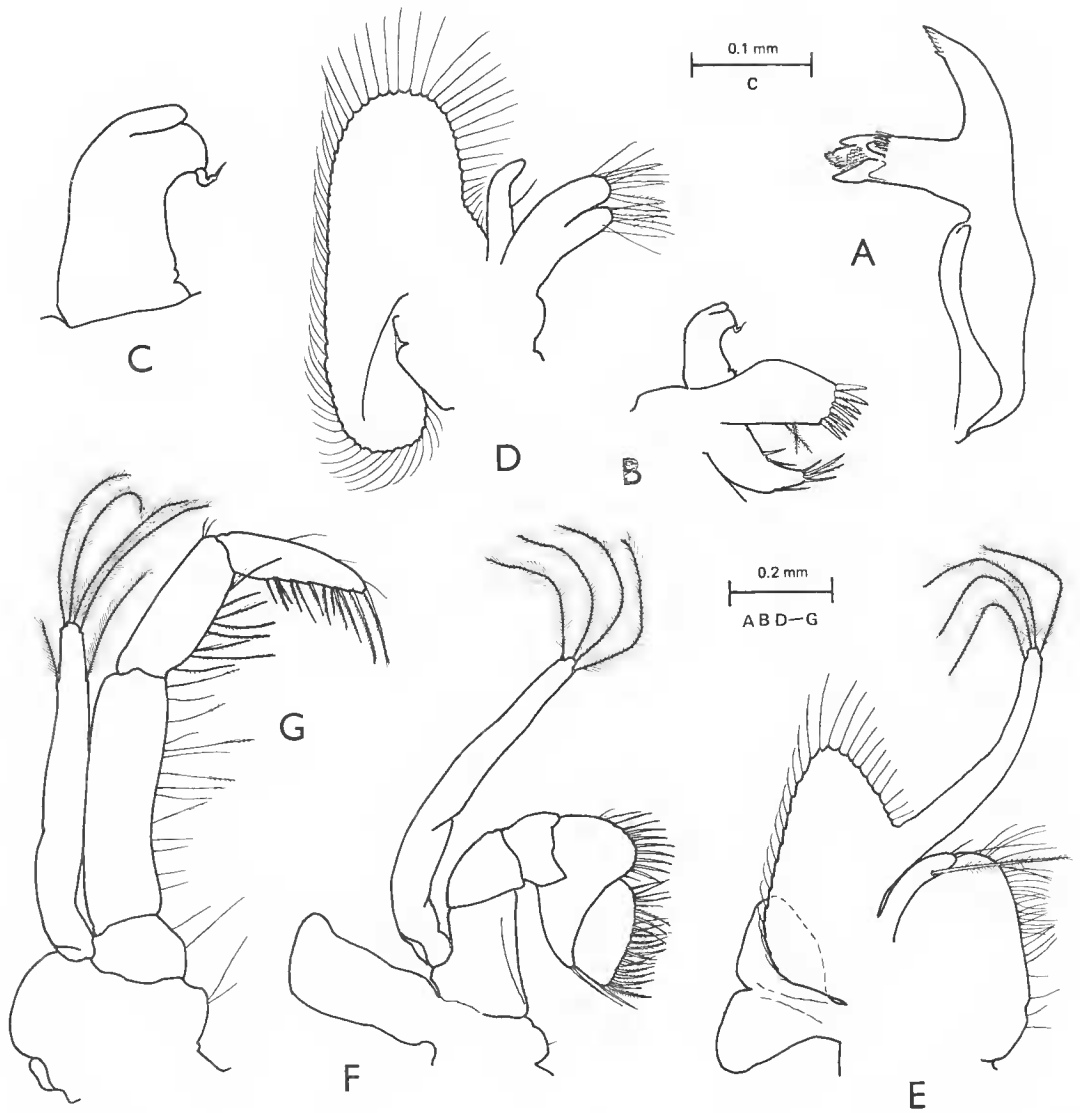

FIG. 5. — *Periclimenes ceratophthalmus* Borradaile, ♂ : A, mandible ; B, maxillula ; C, *idem*, palp ; D, maxilla ; E, first maxilliped ; F, second maxilliped ; G, third maxilliped.

Distribution : Recorded in Indonesian waters from Obi Latu by Holthuis (1952). Also known from Zanzibar, Kenya, Seychelle and Maldive Islands, Caroline and Solomon Islands, and Great Barrier Reef.

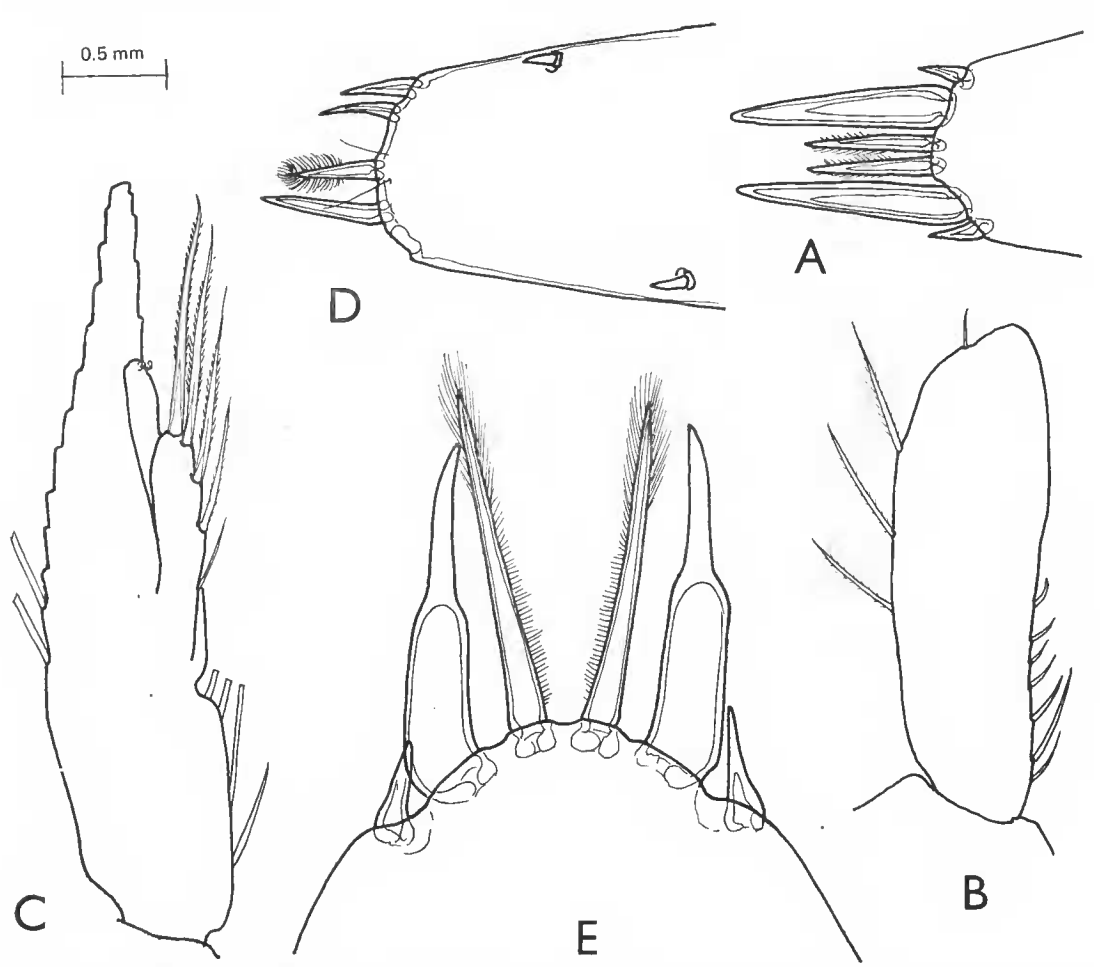

Fig. 6. — *Periclimenes ceratophthalmus* Borradaile ♂ ; A, posterior telson spines ; B, endopod of first pleopod ; C, endopod of second pleopod. — *Araiopontonia odontorhyncha* Fujino & Miyake, ♂ : D, posterior telson spines. — *Paranchistus nobilii* Holthuis, ovigerous ♀ : E, posterior telson spines.

Periclimenes commensalis Borradaile, 1915

(Fig. 4 E)

Restricted synonymy

Periclimenes (Cristiger) commensalis Borradaile, 1915 : 211.
Periclimenes (Periclimenes) commensalis : Holthuis, 1952 : 53-56, fig. 18-19.

Material examined : (i) 1 ♂, 1 ovig. ♀, 3 juv., CLs 1.8, 1.8, 1.3, 1.2, 1.1 mm ; Kotasirih, Kailakat Bay, Gorong Island, 25/27 January 1975, D. L. Meyer coll., C.Po. 374. — (ii) 1 ♂, CL 1.2 mm ; Kotasirih, Kailaket Bay, Gorong Island, 27 January 1975, D. L. Meyer coll. — (iii) 1 ovig. ♀, 1 juv. CLs 1.7, 0.9 mm ; east coast of Marsegu Island, 16-18 January 1975, D. L. Meyer coll., C.Po. 391. — (iv) 1 ♀, CL 2.0 mm ; Sawai, Seleman Bay, Seram Island 2°56'50" S. 129°10'40" E, 20 January 1975, D. L. Meyer coll., C.Po. 389. — (v) 1 ♀, 1 juv., CLs 1.7, 1.0 mm ; Marsegu Island, 3°00'20" S. 120°03'30" E, 16-18 January 1975, D. L. Meyer coll., C.Po. 381. — (vi) 1 juv., CL 1.0 mm ; Lilihta Bay, Misool Island, 2°03'12" S. 130°16'30" E, 22-24 January 1975, D. L. Meyer coll., C.Po. 400. — (vii) 1 ♂, 1 ovig. ♀, CLs, 1.7 mm ; Lilihta Bay, Misool Island, 2°03'12" S. 130°16'30" E., 20-24 January 1975, D. M. Meyer coll., C.Po. 379.

Hosts : *Comanthina schlegeli* (P. H. Carpenter), (i) (ii) (iii) (vi) ; *Petasometra clarae* (Hartlaub), (iv) ; *Himerometra robustipinna* (P. H. Carpenter), (v) (vii), (Crinoidea, Echinodermata).

Remarks

The specimens agree closely with the previously published data. One ovigerous specimen examined is remarkable for having a supraorbital spine on the left side only. The rostral dentition varies from — males 6/2 ; females 5-7/1-2, juveniles 4-6/0-2. Most adult specimens had a clearly bidentate distolateral angle to the proximal segment of the antennular peduncle. The dorsal rostral carina is distinct posterior to the first dorsal rostral tooth and the superorbital spines are large and acute in contrast to Hong Kong specimens (Bruce, in press *a*) which also have a rostral dentition of 7-9/1-3.

The association of *P. commensalis* with the crinoids *Comanthina schlegeli* and *Himerometra robustipinna* has been previously recorded but the association with *Petasometra clarae* (Colobometridae) represents a new host record. Also known on *Comanthus parvicirrus* from Flores. This shrimp is one of the commonest crinoid associates and has now been found in association with 13 different species of crinoid host.

Distribution : First recorded from Indonesian waters by Holthuis (1952), with a single specimen from Flores. Also known from the western Indian Ocean to Hong Kong, Caroline Islands, New Caledonia, northeast Australia, Fiji, and the Soloman Islands.

Periclimenes elegans (Paulson, 1875)

Restricted synonymy

Anchistia elegans Paulson, 1875 : 113, pl. 17 fig. 1.
Periclimenes (Harpilius) elegans : Holthuis, 1952 : 81-82, fig. 31.

Material examined : 1 ♂, CL 2.9 mm ; Banda Besar Island, 30 January 1975, Th. Monod coll., C.Ca. 474.

Remarks : The single example has a rostral dentition of 8/4 and was reported collected from coral.

Distribution : Recorded from several Indonesian localities by Holthuis (1952), including Ambon, Halmahera, Celebes, Aru Islands, Timor Island and the Kawio Islands.

Otherwise known from the Red Sea and Indian Ocean to Hong Kong, the Marshall Islands and the Great Barrier Reef.

Periclimenes lutescens auct.

Restricted synonymy

? *Harpilius lutescens* : Kemp, 1922 : 235-237, figs 72-73.
Periclimenes (Harpilius) lutescens : Holthuis, 1952 : 88-89-91, fig. 35.

Material examined : 1 juv., CL 2.0 mm ; Lilihta Bay, Misool Island, 24 January 1975, R. Serène & Th. Monod coll., C.Po. 365.

Host : *Acropora* sp. (Acroporidae, Scleractinia).

Remarks : The single small specimen has a rostral dentition of 7/2 and was found in the same host as specimens of *Coralliocaris viridis* and *Jocaste japonica*.

Distribution : Extensively distributed throughout the Indo-West Pacific region from the Red Sea to Tahiti, but some records require confirmation. Previously recorded from Ambon by Holthuis (1952) and also from Sumatera, Halmahera, Kera, and the Talaud Islands.

Periclimenes soror Nobili, 1904

Restricted synonymy

Periclimenes soror Nobili, 1904 : 232. — Gordon, 1939 : 395-400, figs. 1-3.

Material examined : (i) 29 spms (12 ovig. ♀) ; Marsegu Island, 16 January 1975, Th. Monod coll., Co.Po. 370. — (ii) 1 juv. CL 1.2 mm ; Marsegu Island, 16 January 1975, Th. Monod coll., C.Po. 362 .— (iii) 9 spms (6 ovig. ♀) ; Gorong Island, 27 January 1975, Th. Monod coll., C.Po. 352. — (iv) 1 ovig. ♀, 6 juv. ; east coast of Marsegu Island, 17 January 1975, Th. Monod coll., C.Po. 369.

Hosts : *Protoreaster nodosus* (L.), (i) (iii) (iv) and *Linckia laevigata* (L.), (ii), (Asteroidea, Echinodermata).

Remarks : The specimens are as previously described. The small specimen from *Linckia laevigata*, a new host record, has a rostral dentition of 7/0. This corresponds to that recorded by Borradaile (1898) for two of his syntypes of *P. parasiticus*, which were reported in association with a black *Linckia* (Bruce, 1975). However, they are indistinguishable from the small specimens of *P. soror* collected from *P. nodosus* from Marsegu Island.

Distribution : Previously recorded from Sanur, Bali, by Gordon (1939) and from Sulu Islands by Holthuis (1952). Common throughout most of the Indo-West Pacific

region from the Red Sea to Madagascar, extending to Hawaii and the Tuamotu Islands and also as far east as the Gulf of Panama.

Periclimenes spiniferus De Man, 1902

Restricted synonymy

Periclimenes petitthouarsii var. *spinifera* De Man, 1902 : 824-826.
Periclimenes (Falciger) spiniferus : Borradaile, 1917 : 324, 369, pl. 52, fig. 1.
Periclimenes (Harpilius) spiniferus : Holthuis, 1952 : 76-78, fig. 30.

Material examined : 2 juv., CLs. 1.9, 1.5 mm, Lilihta Bay, Misool Island, 23 January 1975, R. Serène coll., C.Ca. 473.

Remarks : The specimens have a rostral dentition of 7/3 and 6/2 and were found on coral.

Distribution : First recorded in Indonesian waters from Edam Island and Ambon by De Man (1888) and also from Halmahera (1902). Numerous records were subsequently reported by Holthuis (1952). Known from and common throughout most of the Indo-West Pacific to the Society Islands, but excluding the north-west Indian Ocean and Red Sea.

Periclimenes tenuis Bruce, 1969

Restricted synonymy

Periclimenes tenuis Bruce, 1969 : 272-273.

Material examined : (i) 1 ♂, 2 ovig. ♀, CLs 1.8, 2.2, 2.0 mm ; Tapalol Island, off Biga Bay, Misool Island, 2°01'30" S. 130°19'18" E., 24 January 1975, D. L. Meyer coll., C.Po. 387, NTM Cr. 000428. — (ii) 1 ♂, 4 ovig. ♀, CLs 1.4, 2.1, 2.0, 1.8, 1.8 mm ; east coast of Marsegu Island, 3°00'20" S. 128°03'30" E., 16-18 January 1975, D. L. Meyer coll., C.Po. 381. — (iii) 1 ovig. ♀, CL 2.0 mm ; east coast of Marsegu Island, 3°00'20" S. 128°03'30" E., 16-18 January 1975, D. L. Meyer coll., C.Po. 383.

Hosts : *Oxymetra erinacea* (Hartlaub), (i) ; *Himerometra robustipinna* (P. H. Carpenter), (ii) ; *Amphimetra tesselata* (J. Müller), (iii), (Crinoidea, Echinodermata).

Remarks : Fichelson (1974) has reported the association of this species of erinoid commensal with *Lamprometra klunzingeri*, *Decametra chadwicki* and *Heterometra savignyi* in the Red Sea. Specimens from Zanzibar were found on *Tropiometra carinata* (Bruce, 1974 *b*) and it has also been recorded on *Heterometra magnipinna* on the southern Great Barrier Reef (Bruce, 1981). The present host associations all represent new records. This species therefore associates with erinoids of the families Himerometridae and Mariametridae.

Distribution : Not previously recorded from Indonesia. Known from the type locality, Zanzibar, and from the Red Sea and Great Barrier Reef.

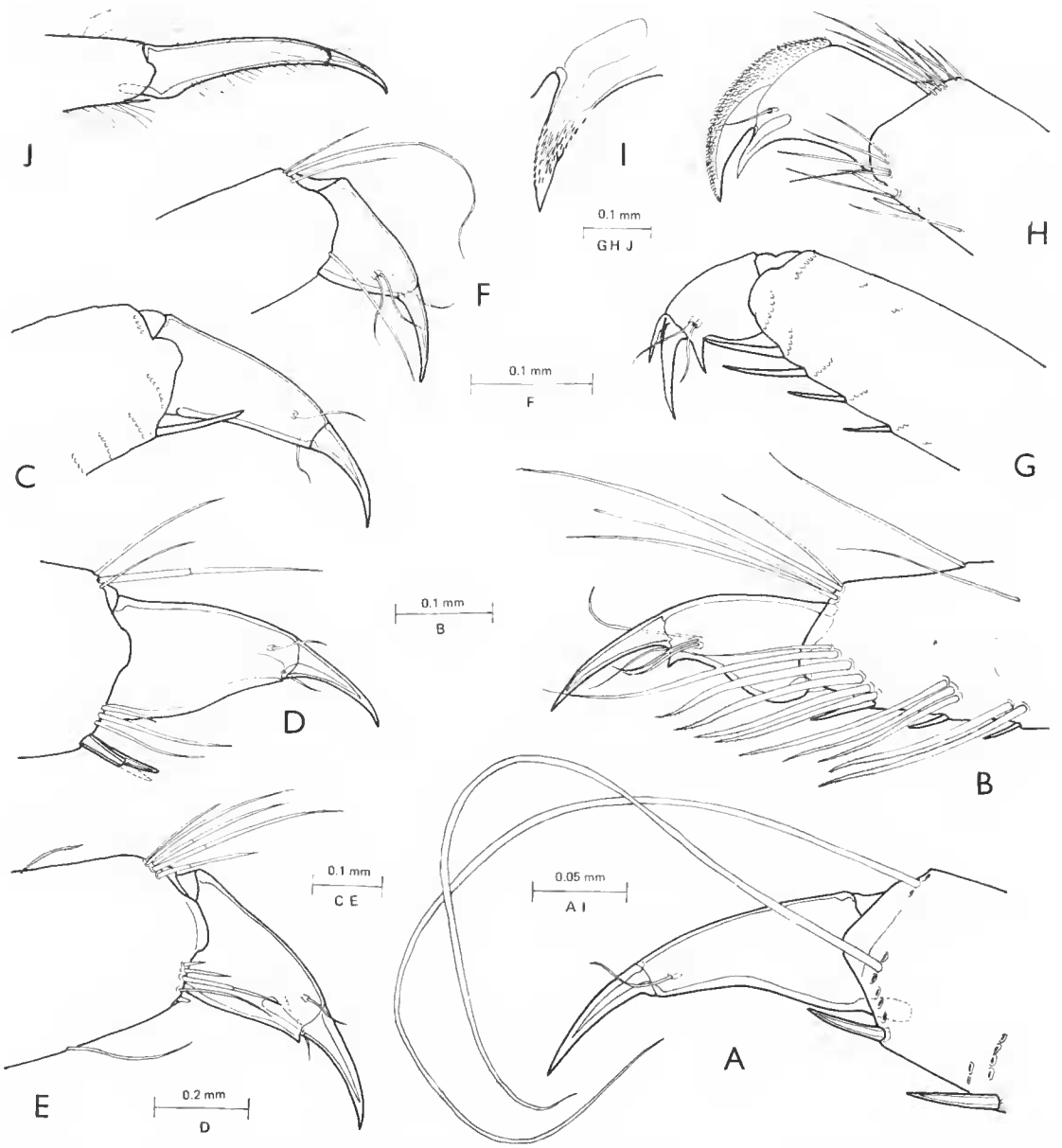

Fig. 7. — Dactyls of third pereiopods : A, *Periclimenes affinis* (Zehntner) ; B, *Periclimenes amboinensis* (De Man) ; C, *Periclimenes amymone* De Man ; D, E, *Periclimenes brevicarpalis* (Schenkel) ; F, *Periclimenes ceratophthalmus* Borradaile ; G, *Araiopontonia odontorhyncha* Fujino & Miyake ; H, *Paranchistus serenei* sp. nov. ; I, *idem*, accessory tooth ; J, *Pycnodonta hyotis* Hipeau-Jacquotte. (A, C, G, propodal setae largely omitted ; B, F, G, ♂ ; D, E, ovigerous ♀.)

Araiopontonia odontorhyncha Fujino and Miyake, 1970
(Figs. 6 D, 7 G, 8 A-H)

Restricted synonymy

Araiopontonia odontorhyncha Fujino and Miyake, 1970 : 2-10, figs. 1-4.

Material examined : 1 ♂, 2 ♀, CLs 2.6, 2.3, 2.2 mm ; Kotasirih, Kailakat Bay, Gorong Island, 4°03′ S. 121°30′30″ E, 25-27 January 1975. D. L. Meyer coll., I. 27-75-2.

Host : *Comanthus bennetti* (J. Müller) (Comanthidae, Crinoidea).

Remarks

The specimens correspond well with the type description but the supraorbital spines in the largest specimen, a male, are slightly less acute as is the distolateral spine of the proximal segment of the antennular pedunele. One female has a rostral dentition of 7/1, the other specimens 6/1, as in the holotype. The eyestalk is also rather more robust. The second pereiopods are unequal with the chelae slightly different and not subequal and symmetrical. The major chela has the palm subcylindrical, tapering slightly distally, smooth, about 3.3 times longer than wide. The daetylus is robust, about 0.6 of the palm length, 4.0 times longer than wide, with the greatest depth at about 0.75 of its length and with a strongly hooked acute tip. The cutting edge is very feebly denticulate. The fixed finger has a smaller, less acute tip ; the cutting edge with three small teeth, with a larger robust blunt tooth distally separated by a notch from the tip, into which the tip of the daetylus fits when closed. The minor chela is about as long as the palm of the major chela, with the fingers equal to about 0.9 of the palm length. The daetylar cutting edge is entire, that of the fixed finger with a few low acute teeth. These differences are adequately accounted for by the fact that the holotype is an ovigerous female.

Other morphological points noted are that, in the male, the epistomal horns are very acute, and the fourth thoracic sternite is unarmed. The telson is about 3.7 times longer than wide, with two pairs of minute dorsal spines. The posterior spines are short, with the stout intermediate spines equal to about 0.06 of the telson length. The lateral spines are robust, about 0.6 of the intermediate spine length. The submedian spines, also robust, are slightly longer than the laterals and shorter than the intermediates, with the distal half very densely plumose. The propods of the ambulatory pereiopods are stated by Fujino and Miyake to be without spines. When viewed laterally, long slender spines can be seen with difficulty due to dense tufts of long setae. Four are present on the third pereiopod, six, including a distoventral pair on the fourth and three slender distoventral spines on the fifth. The endopod of the male first pleopod is about 3.8 times longer than wide, distally blunt and without a medial lobe. The inner margin has four plumose setae proximally with six small spines on the second fourth. The lateral border has seven plumose setae along the distal half. On the second pleopod the appendix interna exceeds the appendix masculina, which has the corpus about 6.0 times longer than wide, with four strong setulose setae distally and three simple setae along the ventromedial margin.

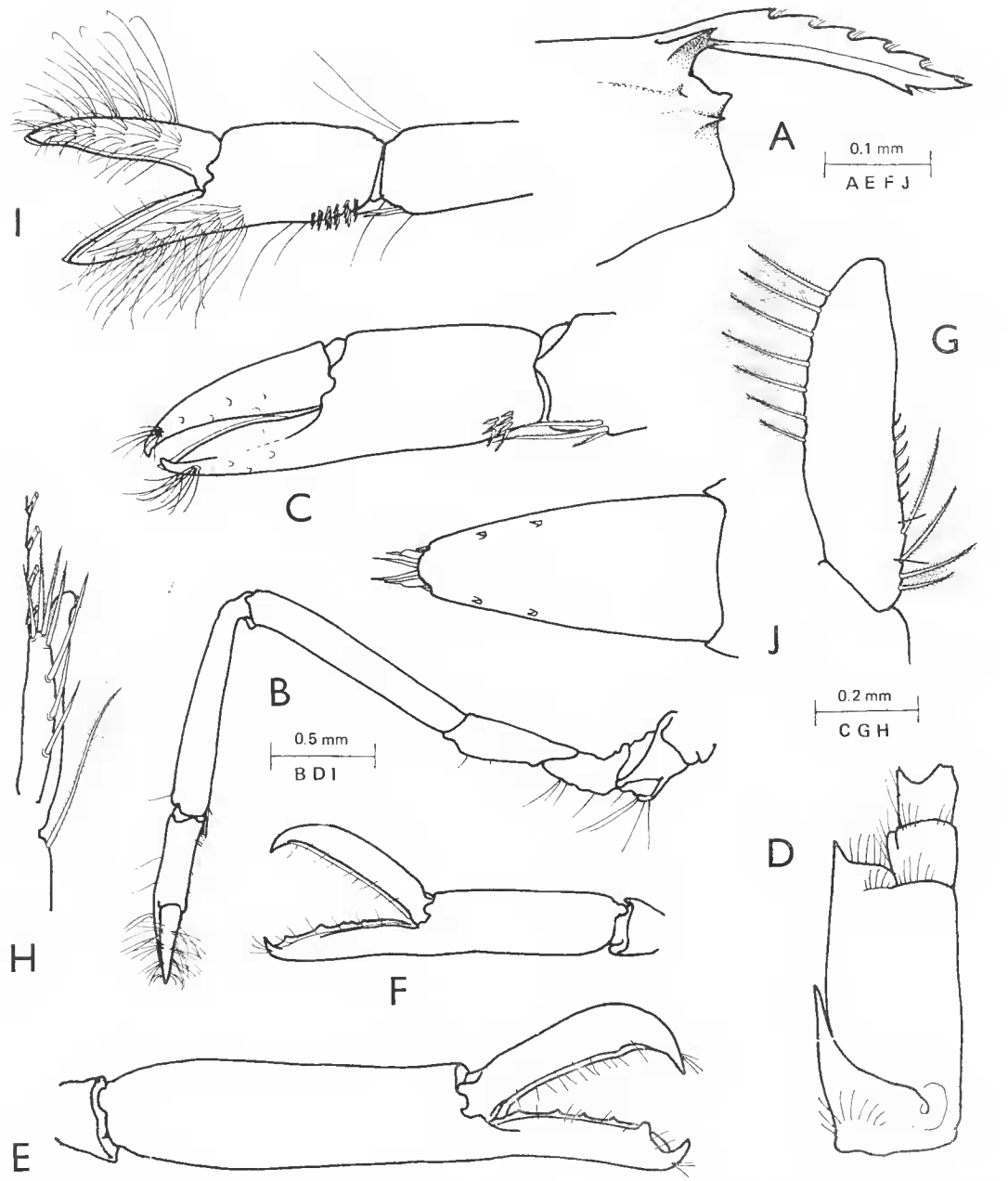

Fig. 8. — *Araiopontonia odontorhyncha* Fujino & Miyake, ♂ : A, anterior carapace and rostrum ; B, first pereiopod ; C, *idem*, chela ; D, antennular peduncle ; E, major chela ; F, minor chela ; G, endopod of first pleopod ; H, appendix masculina and appendix interna. — *Paranchistus nobilii* Holthuis, ovigerous ♀ : I, chela of first pereiopod ; J, telson.

The association of the holotype specimen was not recorded. The present record establishes the association of this species with crinoid hosts. The freshly preserved specimens retained a deep purple red colour.

Distribution : Not previously recorded from Indonesian waters and known only from the holotype female from Amami-oshima, Ryukyu Islands.

Paranchistus nobilii Holthuis, 1952
(Figs. 6 E, 8 I, J)

Synonymy

Paranchistus nobilii Holthuis, 1952 : 100-104, figs. 41-42 — Bruce, 1977 a : 47.
Anchistus gravieri : McNeill, 1953 : 89.

Material examined : 1 ♂, 2 ovig. ♀, CLs 4.5, 5.0, 5.8 mm ; Seleman Bay, Seram Island, 21 January 1975, R. Serène coll., C.Po. 353.

Host : *Tridacna* sp. (Tridacnidae, Lamellibranchia).

Remarks

In general, the specimens agree very closely with the original description. The only noticeable difference is that the cutting edges of the fixed finger of the chela, and the tip of the dactyl of the first pereiopod are very inconspicuously denticulate. A further minor difference is that the lateral posterior telson spines appear rather smaller than shown in Holthuis' illustration.

The association with a species of *Tridacna* represents a new host record, as the type material was found in association with *Spondylus gaederopus* L. Species of *Tridacna* normally have specimens of *Paranchistus armatus* or *Anchistus* spp. as their associates. *P. nobilii* has also been reported in association with *Pinna* sp.

Distribution : New to the Indonesian fauna. Previously recorded only from the type locality, Arzana Island, Persian Gulf and from Tarawa Island, Gilbert Islands.

Paranchistus serenei sp. nov.
(Figs. 7 H-I, 9)

Material examined : 2 ♂, 1 ovig. ♀, CLs 2.9, 2.6 ; 3.7 mm ; Seleman Bay, Seram Island, 21 July 1975, R. Serène coll., C.Po. 359.

Diagnosis : Closely similar to *P. pycnodontae* Bruce, 1978, and *P. spondylis* Suzuki, 1971, from which it may be separated by the presence of minute spinulation on the accessory teeth on the dactyls of the ambulatory pereiopods.

Types : The male, CL 2.9 mm, is designated as the holotype, the female, CL 3.7 mm, as allotype and the male, CL 2.6 mm as paratype. All specimens are deposited in the collection of the Muséum national d'Histoire naturelle, Paris, catalogue numbers : Na 5280 (holotype), Na 5281, (allotype) and Na 5282 (paratype).

Host : *Ostrea cristagalli* L. (Ostreidae, Lamellibranchia).

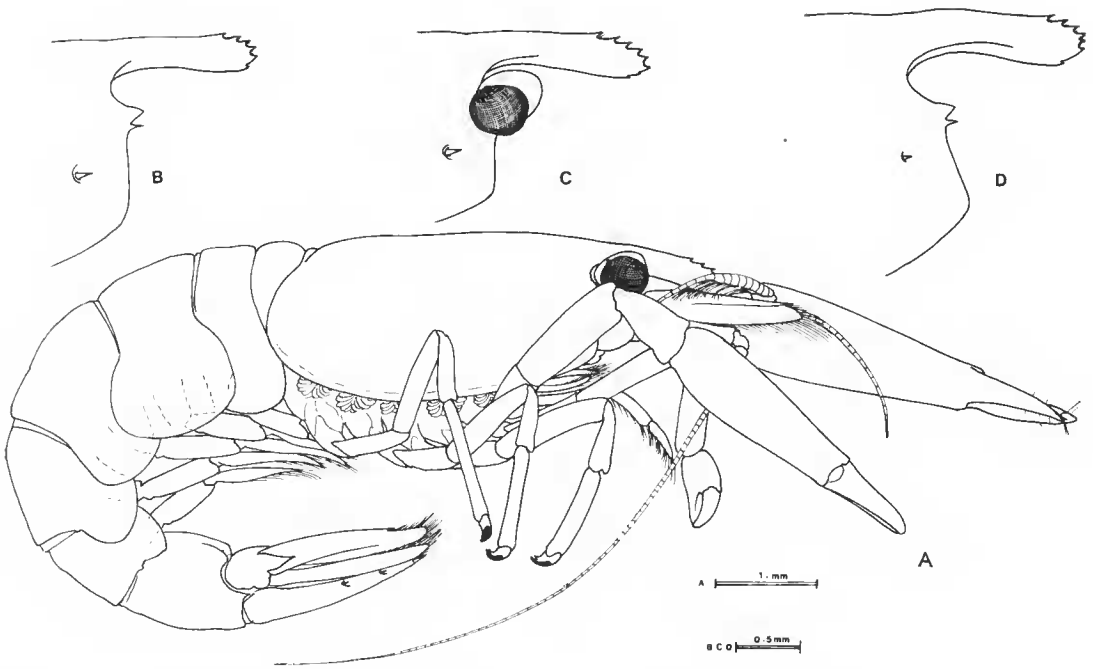

Fig. 9. — *Paranchistus serenei* sp. nov., A, ♂ holotype. B-D, anterior carapace and rostrum : B, ♂ holotype ; C, ♂ paratype ; D, ♀ allotype.

Remarks

The species is named in honour of the collector of these specimens and many others noted in this report, the late Dr. Raoul Serène.

The specimens are extremely similar in morphology to *P. pycnodontae* and *P. spondylis*, both known only from the type material, from Heron Island, Queensland, Australia, and from Sagami Bay, Japan, respectively.

The larger male has both second pereiopods attached but the two other specimens do not, although two detached second pereiopods, probably from the female, are preserved. The rostra are acute, with a dentition of 4/1, 5/2 in the males, 5/1 in the female. The daetyls of the ambulatory pereiopods have the dorsal surface of the unguis covered with a dense layer of minute spinules. The accessory tooth is well developed, slender, and finely covered with minute spinules distally. No other significant differences could be detected. The mouthparts were not dissected.

The genus *Paranchistus* now consists of six species, three of which are known to occur in Indonesian waters.

Anchistus australis Bruce, 1977
(Fig. 10 A)

Restricted synonymy

Anchistus australis Bruce, 1977 a : 56-62, figs. 7-9.

Material examined : 2 ♂, 1 ovig. ♀, 2 juv., CLs 5.0, 4.1, 6.8, 2.2, 2.1 mm ; Seleman Bay Seram Island, 21 January 1975, R. Serène coll., C.Po. 368.

Host : *Tridacna* sp. (Tridacnidae, Lamellibranchia).

Remarks : The specimens correspond closely to the original description but in some the rostrum is rather longer and more acute. The rostrum is armed with 4-6 dorsal teeth and a single small ventral tooth is also present. The type material was found in association with *Tridacna whitley* Iredale, now considered a synonym of *T. derasa* (Röding) (Rosewater, 1956).

Distribution : Not previously recorded from Indonesian seas. Known from the Great Barrier Reef and the Fijian Islands only.

Anchistus custoides Bruce, 1977

Restricted synonymy

Anchistus custoides Bruce, 1977 a : 50-56, figs. 4-6.

Material examined : 1 ovig. ♀, CL 6.0 mm ; Seleman Bay, Seram Island, 21 January 1975, R. Serène coll., C.Po. 366.

Host : *Pteria* (*Avicula*) sp. (Pteriidae, Lamellibranchia).

Remarks : The association with *Pteria* sp. represents a new host record. The type specimens were found in association with *Atrina vexillum*. The only other pontoniine shrimp so far reported in association with a *Pteria* is *Anchistus miersi*, normally found in *Tridacna* spp., recorded in *P. macroptera* from Palau, by Kubo (1940).

Distribution : Not previously recorded from Indonesia. Known so far only from the Great Barrier Reef and Palau Islands.

Anchistus demani Kemp, 1922

Restricted synonymy

Anchistus demani Kemp, 1922 : 256-259, figs. 86-89.

Material examined : 1 ♂, 1 juv., CLs 3.2 mm ; Seleman Bay, Seram Island, 21 January 1975, R. Serène coll., C.Po. 364.

Host : *Tridacna* sp. (Tridacnidae, Lamellibranchia).

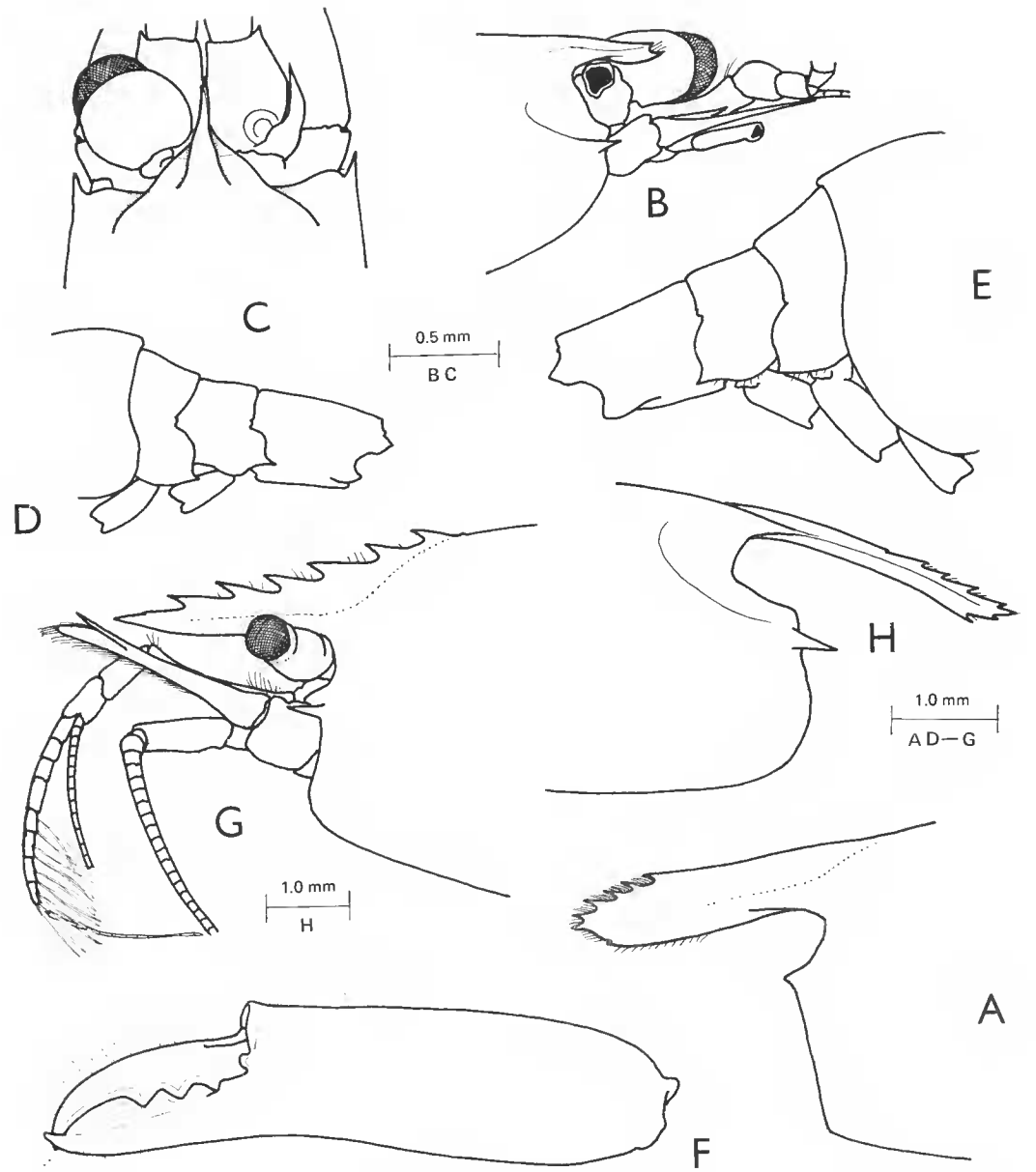

Fig. 10. — *Anchistus australis* Bruce : A, anterior carapace and rostrum. — *Platypontonia hyotis* Hipeau-Jacquotte, juvenile : B, anterior carapace, rostrum and antennal peduncles, lateral ; C, *idem*, dorsal — *Harpiliopsis depressa* (Stimpson), posterior abdominal segments, lateral : D, ♂ ; E, ♀ ; F, chela of second pereiopod, ♂. — *Hamopontonia corallicola* Bruce, ovigerous ♀ : G, anterior carapace, rostrum and antennae. — *Coralliocaris viridis* Bruce, ovigerous ♀ : H, anterior carapace and rostrum.

Remarks : The specimen has a truncate bidentate rostrum as described in the type material.

Distribution : Not previously recorded from Indonesia. Known from the type locality, the Andaman Islands, and from Zanzibar, Kenya, Comoro and Seychelle Islands, Madagascar, Malaysia, Great Barrier Reef and Marshall Islands.

Pontoniopsis comanthi Borradaile, 1915

Restricted synonymy

Pontoniopsis comanthi Borradaile, 1915 : 213. — Holthuis, 1952 : 153-156, figs. 70-71.

Material examined : (i) 1 ♂, 1 ovig. ♀, CLs 0.9, 1.2 mm ; Seleman Bay, Seram Island, 2°54′ 30″ S. 129°04′50″ E., 19 January 1975, D. L. Meyer coll., C.Po. 397. — (ii) 1 ovig. ♀, CL 1.0 mm ; Seleman Bay, Seram Island, 2°54′30″ S., 129°04′50″ E., 19/20 January 1975, D. L. Meyer coll. C.Po. 385, NTM Cr. 000429. — (iii) 1 ♂, 1 ovig. ♀, CLs 0.8, 1.2 mm ; Banda Besar Island, 4°30′21″ S., 129°56′29″ E., 30 January 1975, D. L. Meyer coll., C.Po. 395. — (iv) 1 ovig. ♀, CL 1.1 mm ; Gunung Api Island, Banda Islands, 4°32′10″ S., 129°53′00″ E., 30 January 1975, D. L. Meyer coll., C.Po. 377.

Hosts : *Comanthus parvicirrus* (J. Müller), (ii), (iii), (iv) ; *Capillaster multiradiatus* (L.), (ii), (Crinoidea, Echinodermata).

Remarks : The specimens correspond well with the description of Holthuis (1952), with the rostrum more acute than in a Fijian example illustrated by Bruce (1981), only, on the ambulatory pereiopods, the setae on the ventral border of the dactyl are longer and more dense. The species has been previously reported in association with *C. multiradiatus*, and also with *C. parvicirrus* (as *C. timorensis* (J. Müller)).

Distribution : Previously reported in Indonesian waters from Lombok by Holthuis (1952). Otherwise known from the Red Sea to the Gilbert, Marianna and Fijian Islands.

Pontonia katoi Kubo, 1940

Restricted synonymy

Pontonia katoi Kubo, 1940 : 55-58, figs. 21-23. — Holthuis, 1952 : 158-164, figs. 73-75 (partim).

Material examined : 1 ♂, CL 2.2 mm ; Gorong Island, 25 January 1975, R. Serène coll., C.Po. 357.

Host : Tunicate, unidentified.

Remarks : The single example presents no special features. The species has been found in association with the following tunicates : *Styela palinorsa* Sluiter, *Cynthia ritteri* Oka, *Polycarpa aurata* ?, *P. cryptocarpa* ?, *Herdmania momus* (Savigny), *Microcosmos hartmeyeri* ? and *Cnemidocarpa pedata* ?.

Distribution : Previously recorded in Indonesian waters from Roti Island. Otherwise known from Tanganyika, Japan, New Caledonia and Queensland, Australia.

Platypontonia hyotis Hipeau-Jacquotte, 1971
(Figs. 7 J, 10 B, C)

Restricted synonymy

Platypontonia hyotis Hipeau-Jacquotte, 1971 : 126-139, figs. 1-7.
Platypontonia pterostreae Suzuki, 1971 : 5-10, figs. 3-4, pl. 3.

Material examined : 1 juv., CL 1.5 mm ; Seleman Bay, Seram Island, 21 January 1975, R. Serène coll., C.Po. 359.

Host : *Ostrea cristagalli* L. (Ostreidae, Lamellibranchia)

Remarks : The single small specimen lacks all pereiopods except the left first and second perciopods but three detached ambulatory pereiopods are preserved. The rostrum is longer and more slender than in the adults, with the distoventral tooth large and distinct, acute, and projecting well beyond the dorsal tooth from which it is separated by a concave notch with several short setae. The lateral carinae are broad posteriorly. First and second pereiopods are as in the adults. The detached ambulatory perciopods have the dactylus distinctly longer and slimmer than in the adults and the distoventral angle of the propod bears a single slender spine.

Distribution : New to the fauna of Indonesia. Previously recorded only from the type locality, Tuléar, Madagascar and from Sagami Bay, Japan.

Harpiliopsis depressa (Stimpson, 1860)
(Fig. 10 D-F)

Restricted synonymy

Harpilius depressus Stimpson, 1860 : 38.
Harpiliopsis depressus : Holthuis, 1951 : 70-75, pls. 21 a-i, 22 a-f.

Material examined : (i) 1 ♂, 1 ovig. ♀, CLs 2.0, 2.8 mm ; Marsegu Island, 17 January 1975, R. Serène & Th. Monod coll., C.Po. 392. — (ii) 2 ♂, 3 ♀, juvs., CLs 1.8-2.2 mm ; Gorong Island, 25 January 1975, R. Serène & Th. Monod coll., C.Po. 358.

Host : All specimens were found on unidentified corals.

Remarks : Both adult specimens have a rostral dentition of 7/3, the smaller specimens have 6-8/3-4. The male has the posterior angles of the fourth and fifth pleura more acute than the female. The chelae of the second pereiopods are robust, with the palm about 2.9 times longer than deep, with a well developed raised transverse flange distally over the hinge of the dactylus. The species is normally associated with pocilloporid corals.

Distribution : Previously recorded from Indonesian waters by Holthuis (1952), from Borneo Bank, Maratua, Obi Latu and Timor. The species is widely distributed throughout the Indo-West Pacific region and also along the tropical western american seaboard.

Hamopontonia corallicola Bruce, 1970
(Fig. 10 G)

Restricted synonymy

Hamopontonia corallicola Bruce, 1970 : 41-48, figs. 1-4.

Material examined : 1 ovig. ♀, CL 4.7 mm ; Banda Neira Island, intertidal, 29 January 1975, R. Serène coll., C.Po. 351.

Host : *Fungia* sp. (Fungiidae, Scleractinia).

Remarks : The single specimen has a rostral dentition of 6/0, with a minute additional preterminal tooth. The rostrum is rather more acute than in the type material. The specimen also has three pairs of spines on the dorsal telson, whereas only two were present in the original specimens. The spines are situated at 0.55, 0.76 and 0.93 of the telson length. The species has been previously recorded in association with *Fungia actiniformis* and also on *Goniopora* corals. Specimens associated with *Fungia* appear to be generally larger in size.

Distribution : New to the Indonesian fauna. Previously recorded only from the type locality, Hong Kong, Japan and the Great Barrier Reef.

Coralliocaris viridis Bruce, 1974
(Fig. 10 H)

Restricted synonymy

Coralliocaris viridis Bruce, 1974 : 222-224, fig. 1.

Material examined : 1 ♂, 1 ♀ (bopyridized), 1 ovig. ♀, CLs 4.9, 4.9, 4.7 mm ; Lilihta Bay, Misool Island, 24 January 1975, R. Serène & Th. Monod coll., C.Po. 365.

Host : *Acropora* sp. (Acroporidae, Scleractinia).

Remarks : All three specimens have shallow rostral laminae with small teeth, with a dentition of 5/2, but the most proximal tooth is minute, and the closest resemblance is to *C. viridis* rather than *C. graminea*. Unfortunately the colour pattern in life of these specimens is not known.

Distribution : Not previously recorded from Indonesian waters. So far recorded only from Mombasa, Kenya, the type locality, and Isle Europa, Maldive Islands, Ceylon and the Great Barrier Reef.

Jocaste lucina (Nobili, 1901)

Restricted synonymy

Coralliocaris lucina Nobili, 1901 : 5.
Jocaste lucina : Holthuis, 1952 : 193-195, fig. 94 (partim). — Patton, 1966 : 278-279 (fig. 3 a).

Material examined : 1 ♂, CL 2.7 mm ; Gorong Island, 27 January 1975, R. Serène & Th. Monod coll., C.Ca. 471.

Remarks : The single specimen was noted as found on coral, and has a rostral dentition of 6/3. The species is normally associated with corals of the genus *Acropora*.

Distribution : Previously recorded from Indonesian waters by Holthuis (1952) with specimens from Kabala Dua Island, Borneo Bank and Kera, near Timor. Known from most of the Indo-West Pacific region from the Red Sea to Tahiti.

Jocaste japonica (Ortmann, 1890)

Restricted synonymy

Coralliocaris superba var. *japonica* Ortmann, 1890 : 509.
Coralliocaris lamellirostris : De Man, 1902 : 842, pl. 26, fig. 55.
Coralliocaris japonica : Borradaile, 1917 : 324, 384, pl. 56, fig. 23.
Jocaste lucina : Holthuis, 1952 : 193-195, fig. 94 (partim). — Patton, 1966 : 279-280, fig. 3.

Material examined : (i) 3 ovig. ♀, CLs 3.7, 3.7, 3.4 mm ; Lilihta Bay, Misool Island, 24 January 1975, R. Serène & Th. Monod coll., C.Po. 365. — (ii) 1 ♂, CL 2.5 mm ; Gorong Island, 26 January 1975, R. Serène & Th. Monod coll., C.Po. 354.

Host : (i) *Acropora* sp. (Acroporidae, Scleractinia).

Remarks : The Misool specimens were associated with *Coralliocaris viridis*, *Periclimenes amymone* and *Periclimenes lutescens*. The rostral dentition was 3/2, 4/2, 4/1, 4/2.

Distribution : First recorded in Indonesian waters from Ternate by De Man (1902) and subsequently from Borneo, Salajar Island, Maratua and Obi Latu by Holthuis (1952). Common and widespread in the Indo-West Pacific region, except for the north east Indian Ocean and the Pacific Ocean west of the Marshall and Fijian Islands.

Paratypton siebenrocki Balss, 1914

Restricted synonymy

Paratypton siebenrocki Balss, 1914 : 83, fig. 1.

Material examined : 2 ovig. ♀, CLs 2.8, 2.5 mm ; Gorong Island, 26 January 1975, R. Serène & Th. Monod coll., C.Po. 367.

Host : *Acropora* sp. (Acroporidae, Scleractinia).

Remarks : The specimens are as previously described (Bruce, 1969 *a*). The ova in one female are 0.7 mm in length and, on point of hatching, 1.0 mm in the other.

Distribution : Not previously recorded from Indonesia. Known from the Red Sea, East Africa, Seychelle Islands, La Réunion, Marshall, Samoan and Fijian Islands, and the Great Barrier Reef.

Table I. — The hosts of Indonesian Pontoniine Shrimps.

PORIFERA : *Anchistioides willeyi ; Onycocaridella stenolepis ; Periclimenaeus arthrodactylus, P. hecate, P. holthuisi, P. minutus, P. spongicola, P. truncatus ; Periclimenes incertus ; Thaumastocaris streptopus.*

SCLERACTINIA : *Coralliocaris graminea ; C. superba, C. venusta, C. viridis ; Hamopontonia corallicola ; Harpiliopsis beaupresii, H. depressa, H. spinigera ; Jocaste japonica, J. lucina ; Paratypton siebenrocki ; Periclimenes amymone, P. consobrinus, P. holthuisi, P. lutescens ; Philarius lutescens ; Platycaris latirostris ; Vir orientalis.*

COELENTERATA, non-scleractinian : *Dasycaris ceratops ; Hamodactylus boschmai, H. noumeae ; Periclimenes brevicarpalis, P. galene, P. indicus, P. latipollex, P. nilandensis, P. pectiniferus, P. psamathe ; Pontonides* sp.

BIVALVIA : *Anchistus australis, A. custoides, A. custos, A. demani, A. miersi ; Conchodytes biunguiculatus, C. monodactylus, C. meleagrinae, C. tridacnae ; Paranchistus armatus, P. nobilii, P. serenei* sp. nov. ; *Platypontonia hyotis.*

ECHINODERMATA : *Araiopontonia odontorhyncha ; Palaemonella pottsi ; Periclimenes affinis, P. amboinensis, P. attenuatus, P. ceratophthalmus, P. commensalis ; P. hertwigi, P. soror, P. tenuis ; Pontoniopsis comanthi.*

TUNICATA : *Periclimenaeus tridentatus ; Pontonia ascidicola, P. katoi, P. okai, P. sibogae.*

Uncertain : *Periclimenes brocki, P. parvus.*

Free-living : *Palaemonella lata, P. rotumana, P. tenuipes, Periclimenes elegans, P. calmani, P. digitalis, P. grandis, P. jugalis, P. longirostris, P. platycheles, P. sibogae, P. spiniferus, P. tenuipes.*

DISCUSSION

The present material collected by the Rumphius Expedition II to the Moluccas has increased the number of pontoniine shrimp species known from Indonesia by thirteen to a total of eighty three, representatives of twenty four different genera. The fauna can conveniently be compared with that of Australia, which has 139 species. The majority of these are known only from the northern half of Australia close to the Indonesian region, and 61 species (73 %) occur in common. Of the Indonesian pontoniine fauna, only four species have not so far been found to occur outside the area of the archipelago, three of which are associates of sponges (*Periclimenaeus arthrodactylus, P. holthuisi* and *P. spongicola*), the other being the mollusc-associate, *Paranchistus serenei* sp. nov., described above.

TABLE II. — The crinoid hosts of indo-west Pacific Pontoniine Shrimps.

CRINOIDS \ SHRIMPS	*Palaemonella pottsi*	*Periclimenes novaecaledoniae*	*P. commensalis*	*P. brocketti*	*P. affinis*	*P. cornutus*	*P. amboinensis*	*P. ceratophthalmus*	*P. ruber*	*P. attenuatus*	*P. tenuis*	*Parapontonia nudirostis*	*Araiopontonia odontorhyncha*	*Pontoniopsis comanthi*	NO. OF SPECIES
COMASTERIDAE															
Capillaster multiradiatus	—	—	+	—	r*	—	R	—	—	—	—	—	—	r	3
Comanthina briareus	—	—	—	—	r*	—	R	—	—	—	—	—	—	—	1
Comantheria rotula	R*	—	—	—	r*	—	R	—	—	—	—	—	—	—	2
Comanthina belli	—	—	+	—	—	—	—	—	—	—	—	—	—	—	1
C. schlegeli	R	—	R	?	+	—	—	—	—	—	—	—	—	—	3/4
Comanthus bennetti	+	—	+	—	r*	—	R	—	—	—	—	—	R*	—	4
C. parvicirrus	R	—	+	—	r*	—	R	—	—	—	—	—	—	r	4
C. samoanus	—	—	—	—	r*	—	R	—	—	—	—	—	—	—	1
Comaster distinctus	—	—	+	—	—	—	—	—	—	—	—	—	—	—	1
C. gracilis	—	—	—	—	—	—	—	—	—	R*	—	—	—	—	1
C. multifidus	—	—	+	—	—	—	—	—	—	—	—	—	—	—	1
Comatella nigra	—	—	+	—	—	—	—	—	—	—	—	—	—	—	1
Comatula cratera	—	—	—	?	+	—	—	—	—	—	—	—	—	—	1/2
C. pectinata	—	—	—	—	—	—	—	—	—	—	—	—	—	+	1
C. purpurea	—	—	—	—	—	—	—	—	—	—	—	—	—	+	1
ZYGOMETRIDAE															
Zygometra microdiscus	—	—	+	—	—	—	—	—	+	—	—	—	—	—	2
HIMEROMETRIDAE															
Amphimetra tessellata	—	—	—	—	—	—	—	—	—	—	R*	—	—	—	1
Heterometra africana	—	—	+	—	—	—	—	—	—	—	R	—	—	—	2
H. magnipinna	—	—	—	—	—	—	—	—	—	—	+	—	—	—	1
H. savignyii	—	—	—	—	—	—	—	—	—	—	+	—	—	+	2
Himerometra robustipinna	R*	—	R	—	—	+	—	R	—	—	R*	+	—	—	6
MARIAMETRIDAE															
Dichrometra afra	—	—	—	—	—	—	—	+	—	—	—	—	—	—	1
Lamprometra klunzingeri	—	—	—	—	—	—	—	+	—	—	+	—	—	+	3
L. palmata	—	—	+	—	—	—	—	—	—	—	—	—	—	—	1
Oxymetra erinacea	—	—	—	—	—	—	—	—	—	—	R*	—	—	—	1
Stephanometra indica	—	—	—	—	—	—	—	+	—	—	—	—	—	—	1
S. spicata	—	—	—	—	—	—	—	+	—	—	—	—	—	—	1
COLOBOMETRIDAE															
Decametra chadwicki	—	—	—	—	—	—	—	—	—	—	+	—	—	—	1
Petalometra clarae	—	—	R*	—	—	—	—	—	—	—	—	—	—	—	1
TROPIOMETRIDAE															
Tropiometra afra	—	+	—	—	—	—	—	—	—	—	—	+	—	—	2
T. carinata	—	—	—	—	—	—	—	—	—	—	+	—	—	+	2
NO. OF HOSTS	5	1	13	(2)	2	1	6	5	1	1	9	2	1	7	

\+ previous records ; r Rumphius records ; R Rumphius records new to Indonesia ; * New host records.

Of the 83 species so far recorded, all except for 13 apparently free-living species live in obligatory associations with other marine invertebrates. These relationships are dominated by associations of shrimp species with coelenterates (35 %) (with 22 % associated with scleractinian corals), 16 % of the shrimp species are associated with bivalve hosts and 13 % with echinoderms. Porifera provide hosts for 12 % of the shrimp species, tunicates for 5 % and the hosts of two species of shrimp (2 %) are still unknown. The associations are summarized in the table I (p. 898).

The Rumphius collections are particularly noteworthy for the number of specimens obtained from crinoid hosts, which have provided a number of new host records. Present knowledge of the hosts of Indo-West Pacific pontoniine crinoid associated shrimps is provided in the table II (p. 899).

Many more of the species known from northern Australia may be expected to occur in Indonesian waters and further collections could probably be expected to double the number of species found.

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